

Application No.: 10/669,390

Case No.: 58625US002

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of formulating a pharmaceutical composition comprising:
comparing parameters of at least one pharmaceutical and a plurality of compounds,
wherein the parameters comprise at least $\log(P)$ and molecular weight;
choosing at least one model compound from the plurality of compounds for each
pharmaceutical;
providing at least one model compound-excipient formulation comprising at least one
model compound and at least one excipient;
measuring the diffusion of a model compound of at least one model compound-excipient
formulation across at least one membrane;
choosing a model compound-excipient formulation based on the measured model
compound diffusion; and
combining components comprising the at least one pharmaceutical and the excipient
package of the chosen model compound-excipient formulation.
2. (Original) A method according to claim 1, wherein the model compound-excipient
formulation is saturated in model compound.
3. (Original) A method according to claim 1, wherein the parameters further comprise the
number of freely rotatable bonds.
4. (Original) A method according to claim 1, wherein the parameters further comprise the
number of H-bond donors and acceptors.
5. (Original) A method according to claim 1, wherein the diffusion is measured utilizing a
Franz cell.

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6. (Original) A method according to claim 1, wherein at least one model compound comprises a dye.
7. (Original) A method according to claim 6, wherein measuring the diffusion of the model compound comprises fluorescence spectroscopy.
8. (Original) A method according to claim 6, wherein the diffusion of the model compound is simultaneously measured in a plurality of diffusion cells.
9. (Original) A method according to claim 8, wherein measuring the diffusion of the model compound comprises recording an image.
10. (Original) A method according to claim 1, wherein at least one model compound-excipient formulation comprises a plurality of different excipients.
11. (Original) A method according to claim 1, wherein diffusion is measured utilizing a chemical reaction.
12. (Original) A method according to claim 1, wherein at least one membrane comprises a synthetic polymer membrane.
13. (Original) A method according to claim 1, wherein at least one membrane comprises skin.
14. (Original) A method according to claim 1, wherein at least one membrane is selected from the group consisting of hairless mouse skin, snake skin, pig skin, and cadaver skin.
15. (Original) A method according to claim 1, wherein the parameters consist of log(P) and molecular weight.

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16. (Original) A method according to claim 1, wherein at least one parameter of at least one model compound is calculated.

17. (Original) A method according to claim 1, wherein at least one parameter of at least one model compound is experimentally determined.

18. (Original) A method according to claim 1, wherein at least one parameter of the pharmaceutical is calculated.

19. (Original) A method according to claim 1, wherein at least one parameter of the pharmaceutical is experimentally determined.

20. (Original) A method according to claim 1, further comprising:
 contacting the pharmaceutical composition with the skin of a live mammal; and
 observing the result.

21. (Original) A method according to claim 1, further comprising incorporating the pharmaceutical composition into a transdermal delivery system.

22. (Original) A method according to claim 21, further comprising contacting the pharmaceutical composition with the skin of a live mammal and observing the result.

23. (Original) A method according to claim 21, wherein the transdermal delivery device comprises an adhesive patch.

24. (Original) A method according to claim 1, wherein prior to measuring diffusion of each model compound-excipient formulation, it is incorporated into an adhesive patch.

25. (Original) A method according to claim 1, wherein the model compound-excipient formulation comprises a plurality of model compounds.